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**Declining Racial Stratification in Marriage Choices?  
Trends in Black/White Status Exchange in the U.S. 1980-2010.**

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**Declining Racial Stratification in Marriage Choices?**  
**Trends in Black/White Status Exchange in the U.S. 1980-2010.**

**Abstract**

The status exchange hypothesis suggests that partners in black/white marriages in the U.S. trade racial for educational status, indicating strong hierarchical barriers between racial groups. We examine trends in status exchange in black/white marriages and cohabitations between 1980 and 2010, a period over which these unions have increased from 0.3 percent to 1.5 percent of all young couples. We find that status exchange between black men and white women has not declined among either marriages or cohabitations, even as interracial unions have become more prevalent. We also distinguish two factors driving exchange: 1) the growing probability of marrying a white person as educational attainment increases for both blacks and whites (educational boundaries), and 2) a direct trade of race-by-education between partners (dyadic exchange). While the theoretical interpretation of exchange has focused on the latter factor, we show that status exchange largely emerges from the former.

## **Declining Racial Stratification in Marriage Choices? Trends in Black/White Status Exchange in the U.S. 1980-2010.**

**Introduction.** Patterns of union formation provide information about social boundaries. If a boundary is socially relevant, most marriages will occur within groups defined by it, and growing intermarriage across a boundary will signal its declining relevance. Attributes such as religion and family background were important boundaries to marriage in the past in the U.S., but they have been replaced by education, in a trend from ascription to achievement as the basis for spousal selection (Kalmijn 1991a, 1991b). However, one ascribed attribute continues to have enormous relevance in the American marriage market: the boundary between blacks and whites. Although the number of racial and ethnic intermarriages has grown since the 1970s, and black/white marriages have experienced the largest increase in relative terms (Taylor 2012, Qian and Lichter 2011), the odds of a white/black union are still much lower than intermarriage between whites and any other ethno-racial group (Rosenfeld 2008, Qian and Lichter 2007, 2011).

The low prevalence of black/white couples may signal not just homophily—a non-hierarchical preference for fellow group-members—but rather a persistent racial status hierarchy. The status exchange hypothesis is predicated on such hierarchy. The hypothesis proposes that in black/white marriages, partners trade racial status (whiteness, in the U.S. context) for socioeconomic status such that the union is beneficial for both partners (Davis 1941; Merton 1941). Status exchange has been described as a “second order” kind of homogamy in which “partners with equivalent resources need not be similar with respect to all characteristics relevant to marriage choice; their overall equivalence could result from a balance of pluses and minuses in different areas” (Schoen and Wooldredge 1989). Given a gender-based division of labor and

gendered expectations, the most common form of exchange in the U.S. would be one in which a black man exchanges his educational or economic status for the racial status of a white woman, and interracial marriages formed by a black man and a white woman comprise the majority of black/white couples.

Status exchange will exist only if whiteness carries a hierarchical advantage in a particular society. As put by Kalmijn (2010: 1252), status exchange in racially mixed couples “can be regarded as evidence that in the marriage market—and presumably also in society at large—race is *treated* as a hierarchical variable” (italics in the original). The relevance of status exchange does not emerge from its prevalence, as black/white marriages are only a small fraction of all marriages in the U.S. Rather, status exchange provides social scientists with a unique window into the persistence of racial stratification in union formation.

The analysis of status exchange offers important insights into trends of racial stratification and intermarriage in the U.S., especially over the last few decades. Black/white unions were banned in most U.S. states throughout the first half of the 20<sup>th</sup> century and, not surprisingly, the odds of intermarriage were extremely low. Between 1948 and 1965, fourteen northern and western states repealed anti-miscegenation laws, but only after the Supreme Court’s 1967 *Loving v. Virginia* decision did sixteen remaining southern states follow suit (Fryer 2007:74). Black-white unions have increased dramatically in the post-civil rights era. According to our analysis of the Decennial Censuses and the American Community Survey, the proportion of all married “young couples” (in which the male partner is 25-34 years old) that included a black and white spouse was only 0.34 percent in 1980. This proportion increased to 0.56 percent in 1990, 1.09 percent in 2000, and 1.51 percent in 2010. Although still a small proportion, this trend reflects a massive change in the number and visibility of black/white marriages. Even if the

racial boundary between whites and blacks is still the most powerful division in the American marriage market (Rosenfeld 2008), intermarriage is much more prevalent now than in past decades. Growing racial intermarriage has not, however, been accompanied by a decline in socioeconomic gaps between blacks and whites. The black/white gap in economic advantage declined in the 1960s but was halted in the 1970s and even reversed thereafter (Morris and Western 1999), resulting in persistent racial disparities in schooling and earnings (DeNavas-Walt et al. 2012, Figure 1; Fischer and Hout 2006; McDaniel et al. 2011).

There are pronounced gender differences in black/white unions. Since the 1960s, about two-thirds of black/white marriages have been formed by a black man and a white woman. Furthermore, black women are particularly isolated in the marriage market (Qian and Lichter 2004) and perceived as less desirable than other groups by those looking for romantic partners (Feliciano et al 2009, Lin and Lundquist 2010). Theories explaining gender asymmetry in black/white intermarriage include the traditional gender role of men in initiating courtship, the suggestion that white men may suffer a higher labor market penalty for interracial marriage than black men, and, particularly, the possibility that education and economic potential may be a less valuable asset for women than men in the marriage market, given traditional gender-based norms and expectations (Gullickson 2006a). However, the value of education among potential female partners has changed in the recent past as the gender gap in educational attainment increasingly favors women. Among blacks the gender gap has favored women for a long time and has grown in the recent past. Among whites, women's college completion surpassed men in the 1980s and female advantage has widened ever since (McDaniel et al. 2011). The gender gap favoring men in employment and earnings has declined markedly over the last four decades, even if gender convergence has slowed recently (Cotter et al. 2015, Goldin 2006). These trends may alter the

gender composition of black/white unions toward a more balanced gender ratio and may extend status exchange to interracial couples formed by a black woman and a white man.

The increase in black/white intermarriage was accompanied by a substantial attitudinal change. In 1963, 62 percent of white Americans supported a legal ban to intermarriage (Schuman et al. 1997). By 2002, this percentage had dropped to 11 percent (Smith et al. 2013).

Furthermore, according to the General Social Survey, opposition to a close relative marrying a black person declined from 65 percent of all white respondents in 1990 to about 20 percent in 2010. Notably, the reverse opposition to marrying a white person has been consistently low among blacks, hovering around 9 percent over the period of observation. This trend suggests that the resistance of intermarriage largely emerges from whites. Although white resistance has decreased in recent decades, whites still reject blacks as potential spouses for a family member at higher rates than they reject any other ethno-racial group (Taylor 2010).

In sum, both the acceptance and prevalence of black/white intermarriage has increased in American society, suggesting a decline in the strong hierarchical racial barriers that give rise to status exchange (Kalmijn 2010). This leads to our first hypothesis, *H1: Status exchange in black-white unions has declined over time as these unions become more prevalent and accepted.*

**What does status exchange really capture?** The theory of status exchange suggests that black/white unions would often involve an exchange of status in which the white partner trades a higher racial status for a higher status on another attribute, generally measured as education. Although other measures of status such as earnings and wages have been used, education is our preferred variable because it strongly predicts economic wellbeing and other important outcomes such as health, psychological wellbeing, and political participation (Pallas

2000), and because most people complete their education before establishing a union. Alternative measures of status, such as earnings or wages, are much more likely to endogenously change after marriage if individuals adjust their labor market involvement precisely as a result of union formation.

The status exchange hypothesis posits that interracial unions diverge from educational homogamy and include a white partner who is less educated than the black partner, a pattern known as “white educational hypergamy.” Early attempts to test the status exchange theory for black/white intermarriage assumed that the educationally asymmetric couples predicted by the theory—those characterized by white hypergamy—would be the most common form of interracial union. These studies found little support for the theory because educationally homogamous marriages were found to be the most common form of union in black/white intermarriage, just as they are for other types of marriage.

As argued by Gullickson (2006b), this test is excessively strict because most interracial marriages are, similar to their intraracial counterparts, educationally homogamous. A more appropriate test of exchange compares interracial and intraracial couples. Specifically, white partners in interracial marriages are expected to be more educationally hypergamous (marry up) and less educationally hypogamous (marry down) than their respective sexes in intraracial unions. Conversely, black partners in interracial unions should be more educationally hypogamous and less educationally hypergamous than their respective sexes in racially endogamous unions. Using such criterion, several empirical studies have found evidence of status exchange in marriages between black men and white women in the U.S., but weaker or no indication of exchange in marriages between black women and white men (Schoen and Wooldredge 1980; Kalmijn 1993, 2010; Qian 1997, Gullickson 2006b, Hou and Myles 2013),



although one study did not find evidence of exchange in black/white marriages (Rosenfeld 2005) and elicited an interesting debate (Gullickson and Fu 2010; Kalmijn 2010, Rosenfeld 2010).

What the status exchange literature has been slow to realize is that educational asymmetry—in the form of white hypergamy—conflates two distinct factors contributing to exchange. First, in racially stratified societies, both educational status and racial status (whiteness) operate as sources of advantage. If racial status and educational status are at least partially fungible, then individuals with higher education will have better access to white partners, and white individuals will have better access to more educated partners (Fu 2001). As a consequence, both whites and blacks will be more likely to marry whites as their education increases, resulting in race-specific effects of education on interracial marriage: Education will increase the likelihood of interracial marriage among blacks, but will decrease the likelihood of interracial marriage among whites, a component referred to as “educational boundaries” by Gullickson (2006b) and “market exchange” by Gullickson and Torche (2014).

In addition to “educational boundaries,” there may be a direct trading of racial for educational status in interracial couples, resulting in an asymmetric difference in educational attainment between spouses. This is the notion to which status exchange theory has traditionally referred. White partners in interracial marriages are expected to be more educationally hypergamous and less educationally hypogamous than white partners in intraracial marriages, and black partners in interracial marriages should be more educationally hypogamous and less educationally hypergamous than black partners who marry blacks. This educational asymmetry in interracial marriages is called “dyadic exchange” by Gullickson and Torche (2014) because it refers to a direct trading of resources between partners.

Educational boundary parameters capture the hypothesis that highly educated black men are *more* likely to marry white women than fellow blacks with lower levels of education, and the hypothesis that highly educated white women are *less* likely to marry black men than fellow white women with lower levels of education. Note that these hypotheses say nothing about the level of education of the potential partner chosen by black men and white women, respectively. If these hypotheses are true, then white wives married to black husbands will be more likely to be educationally hypergamous than white women in racially endogamous marriages. The reason is that highly educated black men are selected *into* racial intermarriage, and highly educated white women are selected *out of* intermarriage, *increasing the odds of white hypergamy even if no direct exchange of racial-for-educational status exists.*

As in other forms of assortative mating, educational boundaries emerge from a combination of individual preferences and marriage market exposure to potential partners of different races and educational levels (Kalmijn 1998). For example, given persistent racial stratification in U.S. society, white individuals may request more education in a black partner than in a white partner (preferences), and they may also be more likely to be exposed to potential black partners with higher levels education in settings such as neighborhoods and educational institutions (exposure).

It is important to stress that both “educational boundaries” and “dyadic exchange” emerge from the same premise, namely that racial stratification shapes spousal selection and that whiteness is treated as a source of status advantage in contemporary American society. However, educational boundaries do not require nor expect a direct trading between partners. They only assume that each person in the marriage market seeks the “best” potential partner in terms of both educational and racial status, and that these attributes are to some extent exchangeable, such

that a white person will be more likely to marry a black person with high rather than low level of educational attainment if they decide to cross the racial boundary in intermarriage. Because the parameter estimates capturing educational boundaries and dyadic exchange partially overlap, if educational boundaries are not properly modeled, they will appear as dyadic exchange, a direct trade between partners. This potential limitation has affected most analyses of exchange in the U.S. to date (exceptions are Gullickson [2006b] and Hou and Myles [2013]).

Distinguishing the two forces driving exchange is important because educational boundaries signal a more general phenomenon that applies to all interracial couples, and not only to the small proportion of educationally asymmetric couples. While most prior research conflates these dimensions, we separate them in a log-linear analysis of trends to assess their relative relevance in accounting for the phenomenon that the exchange literature has reduced to a direct trading of resources between partners.

**Marriages and cohabitations.** To date, almost all studies of status exchange in black/white unions have focused on married couples. However, the proportion of individuals who are married in early adulthood has declined over time and cohabitations have increased. The “retreat from marriage” among young adults varies across race and education. Figure 1 shows the proportion of white and black individuals 25-34 years of age who are married, cohabiting, or not in a union (labeled “single” for simplicity) between 1980 and 2010.<sup>1</sup> Among blacks, marriage has declined from 59 percent to 34 percent of those 25-34 years old, while singlehood has increased from 35 to 51 percent and cohabitation has grown from 6 to 15 percent. The changes are less dramatic but still substantial among whites, with a decline in marriage from 80 to 61

percent, and increases of singlehood from 16 to 24 percent and cohabitations from 4 to 15 percent.

Figure 1 about here

Marriages are not a random sample of young adults. Among individuals 25-34 years of age, cohabiters have lower levels of schooling than either married or single individuals. Educational differences between married and single individuals are less pronounced. Among whites and black women 25-34 years old, single young adults have consistently higher levels of schooling than married ones, suggesting marriage postponement among the highly educated. Among black men, single and married individuals have similar levels of schooling. These patterns have remained quite constant between 1980 and 2010 in spite of generalized educational expansion among all groups (Appendix Table 1 gives educational attainment by marital category for blacks and whites between 1980 and 2010).

In sum, decline in marriage rates is evident for all groups among young adults, but individuals with higher levels of education appear to be more likely to postpone marriage while individuals with lower levels of education are more likely to establish cohabitations. Cohabitors are consistently the most educationally disadvantaged category among both genders and racial groups.<sup>2</sup>

As cohabitations become more prevalent and offer a “principle of cohesion” possibly different than marriage (Brines and Joyner 1999), the question about status exchange should be extended to this kind of union. If cohabitation is simply an “informal marriage” (Macklin 1987: 322, cited in Schoen and Weinick 1993), then trends of status exchange between cohabiting and

married unions should compare similarly. Two theoretical perspectives, however, suggest that status exchange may differ between marriages and cohabitations. First, the “specialization and trading” perspective suggests that couples maximize gains to marriage by specializing in realms in which they have a comparative advantage and by trading areas of advantage with their spouses, with men specializing in market work and women specializing in domestic work (Becker 1991). Because cohabitation lacks the legal protections, expectations, and long-term commitment of marriages, the risks associated with specialization are too high among cohabiters, and partners operate on the principle of equality in terms of their economic resources (Brines and Joyner 1999). This would result in more similarity in human capital and earning power among cohabiters when compared to married couples. Second, the “winnowing” or “sequential selection” approach sees cohabitation as a stage in the mate selection process, with the transition from cohabitation to marriage marked by increasing selectivity of partners (Blackwell and Lichter 2000, 2004). As a result, cohabiters will be less similar than spouses in every domain.

If, as highlighted by the literature, status exchange is a “second order” form of homogamy in which minority partners “compensate” for their low racial status offering their higher social status (Schoen and Wooldredge 1989), then the two theoretical approaches predicting differences in assortative mating between married and cohabiting couples have different implications for status exchange. The “specialization and trading” hypothesis predicting stronger homogamy in economic resources among cohabiting couples would also predict a higher degree of status exchange. In contrast, the “winnowing” approach, predicting less homogamy among cohabitations than marriages, would suggest lower levels of exchange.

To the best of our knowledge, only one study exists to date comparing status exchange between cohabitations and marriages (Blackwell and Lichter 2000). This analysis finds weaker

exchange among cohabiters, consistent with the “winnowing” hypothesis. Following this study, we predict *Hypothesis 2: Status exchange is weaker among cohabitations than marriages.*

**Data and Analytical Strategy.** We examine trends in status exchange between 1980 and 2010 to address three questions: Has status exchange weakened as black/white marriages have become more prevalent? Is the phenomenon traditionally called exchange a dyadic trading of status that makes the union beneficial for both partners, or is it better described as emerging from the differential association between educational attainment and the probability of racial intermarriage (educational boundaries)? Is status exchange equally strong among married and cohabiting couples, or are there differences signaling dissimilar “principles of cohesion”?

We analyze representative samples of married and cohabiting couples in the U.S. in 1980, 1990, 2000 and 2008-12 (which we call 2010 for simplicity). We use "long-form" responses from the 1980, 1990 and 2000 censuses from the University of Minnesota Population Center (IPUMS-USA). The long form respondents represent a 5 percent cross-sectional sample of U.S. households at each time of collection. After 2000, the Census Bureau discontinued the long form and replaced it with the American Community Survey (ACS), which samples 1 percent of the U.S. population annually. To approximate a 2010 sample comparable to previous long-form samples, we use a pooled dataset that combines and weights the respondents from five consecutive years of ACS collection between 2008 and 2012 (Ruggles et al. 2010). We identify heterosexual marriages and cohabitations and exclude any records in which the responses on age, sex, marital status, or householder relationship by either husband or wife were reallocated by the Census Bureau in post-collection procedures (approximately 3 percent of sampled couples). We

identify marriages in our sample by the “spouse” category in the relationship to householder question. Cohabitations are identified by matching household heads with their “unmarried partners” in the 1990, 2000, and 2010 datasets. The 1980 dataset does not include the unmarried partner category in the relationship to householder question. Rather, it classifies individuals as “partner/roommate.” This induces some misclassification error in 1980, as some dyads coded as cohabitations may be roommates.<sup>3</sup> We include native-born and foreign-born respondents in the analysis. Some studies restrict the sample to native-born to ensure that unions have been established in the domestic marriage market, but this strategy misses respondents who migrated before adolescence and thus found their partner in the U.S. As a robustness check we restrict the sample to native-born respondents and replicate all analyses; results are unaltered.

Interracial coupling may vary by age at first union, union dissolution, and remarriage. For example, unions that are established later in life or after a prior union has ended may be more likely to cross racial lines (Porterfield 1982; Fu 2010) or racially exogamous unions may be more likely to be dissolved (Bratter and King 2008; Heaton 2002, Fu and Wolfinger 2011). In order to build a comparable series, we would ideally examine first unions over time. However, no time series information on union date or parity is currently available. As an alternative, we select couples in which the male partner is 25-34 years of age for each year of observation. This choice increases the probability of capturing first unions while at the same time ensuring that the large majority of individuals would have completed their educational career.

For each year, we produce contingency tables that cross-classify male partner’s educational attainment by male partner’s race by female partner’s educational attainment by female partner’s race. Educational attainment is categorized into three levels: (1) a high school degree or less, (2) some college, and (3) a bachelor’s or advanced degree. Race has two

categories: (1) non-Hispanic white and (2) non-Hispanic black. All other racial and ethnic identities are excluded from the analytical sample. Beginning in 2000, the Census Bureau allowed individuals to indicate multiple racial identities. The IPUMS-USA dataset includes a constructed single-race variable that preserves comparability before and after this change, which we use in this analysis (Ruggles et al. 2010). Each contingency table contains 36 cells. Data are weighted to represent population distributions. Appendix Table 2 offers the weighted frequencies for each of the 36 cells among married and cohabiting couples for all years of observation. These frequencies can be used to replicate all analyses offered here.

**Measuring Status Exchange:** Following past research, we use log-linear models in the assessment of status exchange. The advantage of log-linear models is that they account for changes in marginal distributions of the variables examined; for example, interracial unions will be a larger proportion of all unions for blacks than for whites simply because whites are a larger proportion of the American population. By the same token, an increase in educational attainment among women over time will result in growing educational hypergamy among men simply driven by a widening educational gap favoring women. By accounting for these differences in marginal distributions, we can examine net associations between race and education (for an intuitive explanation of the advantages of log-linear models to examine assortative mating, see Kalmijn 2010).

Our initial assessment of status exchange uses the hypergamy ratio (Kalmijn 1993, 2010). The hypergamy ratio captures the excess white hypergamy (white spouses “marrying up” in education) in interracial marriages compared with what would be predicted if the pattern of educational assortative mating were symmetric between spouses independent of their race. To



generate hypergamy ratios, we follow two steps. First, we fit a log-linear model of quasi-symmetry that adjusts for any differences in marginal distribution of education across gender and racial group, and that assumes the remaining association between spouses' education is symmetric, i.e. it does not depend on the race of the spouses. Following Kalmijn (2010), we write the quasi-symmetry model for a table cross-classifying husband's education ( $i$ ), wife's education ( $j$ ), husband's race ( $k$ ), and wife's race ( $l$ ) as follows:

$$\log(F_{ijkl}) = HE_i + WE_j + HR_k + WR_l + HE_i * HR_k + WE_j * WR_l + \sum_{m=1}^3(D_{HE} * D_{WE}) + \sum_{m=1}^j(D_{HE} * D_{WE}) * \sum_{n=1}^3(HR * WR) + EN + EN * 1/2(HE + WE) \quad (1)$$

The first four terms ( $HE_i + WE_j + HR_k + WR_l$ ) adjust for the marginal distribution of the variables and the next two terms ( $HE_i * HR_k + WE_j * WR_l$ ) account for educational differences across races separately for men and women. The  $(D_{HE} * D_{WE})$  terms capture educational assortative mating (EAM). Each of these parameter estimates captures an odds ratio for the association in each of the  $m$  sub-tables across two categories of education.<sup>4</sup> Higher odds ratios capture stronger homogamy, i.e., a lower probability of crossing the barrier between the two educational categories in intermarriage. Note these educational assortative mating terms apply to all couples, regardless of which spouse has each particular level of education, capturing symmetric educational associations. The  $(D_{HE} * D_{WE}) * (HR * WR)$  interaction terms allow EAM to vary depending on the racial composition of the couple, distinguishing three types of couples: white/white, black/black, and interracial. To address the tendency toward racial endogamy, the model also includes  $EN$ , a dummy variable distinguishing interracial from racially endogamous marriages. Because prior literature has shown an association between educational attainment and

racial endogamy (Kalmijn 1993; Qian 1997), we include an interaction term between racial endogamy and the “average” educational level of the couple,  $EN * 1/2(HE + WE)$ . By averaging education across both spouses, this term captures variation in endogamy across levels of schooling while retaining symmetry within the model.

The essential characteristic of this model is that it assumes that educational assortative mating is symmetric regardless of the racial composition of the couple, with no excess white educational hypergamy in interracial couples. We then predict cell counts expected from this symmetric model. Using these predicted counts, we divide the predicted number of individuals in each racial group marrying up in education (hypergamy) by the predicted number of individuals marrying down in education (hypogamy) for each racial combination of the couple (white/white, white/black, black/white, black/black). In the case of interracial marriages, this quotient is obtained for the white spouse. For racially endogamous couples, the quotient is obtained for the male partner. We repeat these steps for the *observed* cells, and then divide the quotient based on observed frequencies by the quotient based on frequencies predicted by the symmetric model to produce the hypergamy ratio. The hypergamy ratio therefore captures any *excess observed white educational hypergamy* in interracial couples (and excess male partner’s hypergamy in intrarracial couples) compared with what would be predicted by a model assuming symmetric educational assortative mating. Values of 1 for the hypergamy ratio indicate that educational assortative mating is symmetric, and no exchange is present. Values larger than 1 in interracial unions indicate that white individuals married to black spouses will be more educationally hypergamous than expected by a symmetric pattern of educational assortative mating, supporting the status exchange hypothesis. Given the traditional gender division of labor, white hypergamy is expected to be more pronounced when the black spouse is male.

### **Distinguishing Components of Exchange: Educational Boundaries and Dyadic**

**Exchange.** The hypergamy ratio provides a parsimonious account of status exchange using a single coefficient and facilitates evaluating change over time. However, it does not yield tests of statistical significance and it conflates two distinct forces potentially contributed to exchange—educational boundaries and dyadic exchange. Following Gullickson (2006b) and Gullickson and Torche (2014), we distinguish these components using a log-linear formulation. For a table cross-classifying male partner's education ( $i$ ), female partner's education ( $j$ ), male partner's race ( $k$ ), and female partner's race ( $l$ ), the log-linear model capturing educational boundaries and dyadic exchange is expressed as:

$$\begin{aligned} \log(F_{ijkl}) = & HE_i + WE_j + HR_k + WR_l + (HE_i * HR_k) + (WE_j * WR_l) + (HE_i * WE_j) + (HR_k * WR_l) \\ & + \sum_{p=1}^z \eta_p u_{pij} + \sum_{q=1}^z \delta_q w_{qij} + \tau(x_{ijkl}) + \gamma(y_{ijkl}) \end{aligned} \quad (2)$$

The model accounts for marginal distribution of either spouse's race and education, different marginal distributions of education by husband's race ( $HE_i * HR_k$ ) and wife's race ( $WE_j * WR_l$ ), a general pattern of educational assortative mating ( $HE_i * WE_j$ ) and a general pattern of racial endogamy ( $HR_k * WR_l$ ) across all interracial and intraracial couples. All these terms are symmetric, i.e. assume that there is nothing particular about interracial couples that distinguish them from racially endogamous couples. The educational boundary components of exchange are captured by the  $\sum_{p=1}^z \eta_p u_{pij} + \sum_{q=1}^z \delta_q w_{qij}$  terms, where  $p$  and  $q$  index levels of education, and  $u_{pij}$  and  $w_{qij}$  are defined as:

$$u_{pij} = \begin{cases} 1 & \text{if } (i > p \text{ and BM/WF}) \text{ or } (j > p \text{ and WM/BF}) \\ 0 & \text{otherwise} \end{cases}$$

$$w_{qij} = \begin{cases} 1 & \text{if } (i > q \text{ and BM/WF}) \text{ or } (j > q \text{ and WM/BF}) \\ 0 & \text{otherwise} \end{cases}$$

Each of the terms  $\eta_p$  and  $\delta_q$  indicate how the log-odds of interracial marriage change for blacks and whites, respectively, when moving up one level of education from either  $p$  or  $q$  (i.e. from high school graduate to some college, and from some college to college graduate, for  $z=2$ ). We use difference coding, in which the parameter estimates capture the difference between adjacent pairs in an ordinal scale (e.g. some college or more compared with high school or less).

When we add these terms, separately by gender, they exactly fit the three-way interactions of husband's race by wife's race by husband's education ( $HE*HR*WR$ ), and husband's race by wife's race by wife's education ( $WE*HR*WR$ ), as well as the lower order two-way interactions involved. For male partners, these three-way interaction terms capture how his education ( $HE$ ) shapes the chances of interracial pairing ( $HR*WR$ ). For female partners, they capture how her education ( $WE$ ) shapes the chances of interracial pairing ( $HR*WR$ ).

By expressing these three-way interactions as educational boundaries, we are able to assess which educational levels have a stronger influence on the probability of racial intermarriage separately for whites and blacks. The status exchange theory indicates that educational boundaries should be positive for blacks, signaling increasing chances of racial intermarriage as their education increases, but negative for whites, signaling lower chances of intermarriage as their education increases.

The  $x_{ijkl}$  and  $y_{ijkl}$  terms capture “dyadic exchange.” They are given by:

$$x_{ijkl} = \begin{cases} 1 & \text{if } (i > j \text{ and BM/WF}) \text{ or } (j > i \text{ and WM/BF}) \\ 0 & \text{otherwise} \end{cases},$$

$$y_{ijkl} = \begin{cases} 1 & \text{if } (i < j \text{ and BM/WF}) \text{ or } (j < i \text{ and WM/BF}) \\ 0 & \text{otherwise} \end{cases}$$

where  $x_{ijkl}$  identifies white hypergamy and  $y_{ijkl}$  identifies white hypogamy. Because the parameters apply only to interracial couples, racially endogamous couples are used as a baseline for comparison. These parameters involve a 4-way interaction ( $HE*WE*HR*WR$ ). For interracial marriages (defined by  $HR*WR$ ) the black partner's education is expected to be larger than the white partner's education (captured by  $HE*WE$ ) when compared to intraracial unions such that white hypergamy should be positive and white hypogamy should be negative.

Our analysis proceeds as follows. We first offer some descriptive evidence on interracial union trends between 1980 and 2010. Then, we conduct a parsimonious assessment of status exchange trends using the hypergamy ratio. Finally, we examine the two components of exchange in order to determine whether it is driven by educational boundaries or dyadic exchange. All analyses are conducted separately for married and cohabiting couples.

**Descriptive Findings: Trends in Interracial Unions.** Figure 2A presents rates of racial exogamy among married individuals 25-34 years old from 1980 to 2010. Given that the probability of intermarriage depends on the relative size of each racial group, we present rates of racial intermarriage separately for blacks and whites. Among white men, the probability of marrying a black woman rises from 0.08 percent among those born around 1950 to 0.7 percent for those born around 1980. Among white women, there is an increase from 0.3 percent to 1.5 percent. As expected given group size, the proportion of blacks marrying whites is substantially higher. In 1980, 4 percent of black men and 1 percent of black women married a white partner; by 2010, as many as 15 percent of black men and 8 percent of black women married interracially. Translated to the proportion of all *couples*, only 0.34 percent of young married couples included a black spouse and a white spouse in 1980. For the cohorts born three decades

later, 1.5 percent of young marriages were black/white. Even if interracial couples are still a small proportion of all marriages, they are much more visible in 2010 than in prior decades.<sup>5</sup> Trends of racial exogamy are very similar among cohabiting couples (Figure 2B). Exogamy is somewhat more pronounced among cohabiters—in particular, black men have consistently been more likely to cross racial barriers in establishing cohabitations—but there is convergence across union type over time.

Figure 2 about here

The gender composition of black/white couples has changed as interracial unions become more prevalent. Figure 3 shows a decline in the proportion of interracial marriages formed by a black man and a white woman—from 81 percent to 69 percent among marriages and 87 percent to 79 percent among cohabitations. Although still infrequent, white male/black female couples are a growing proportion of interracial couples, a trend likely associated to women's gains in educational attainment and labor force participation.

Figure 3 about here

**Trends in Status Exchange.** We now move to the core of the analysis. Appendix Table 3 includes the full set of parameter estimates and standard errors from the quasi-symmetry model used to generate hypergamy ratios across years. Figure 4A summarizes the findings from this model, showing the hypergamy ratios for interracial marriages from 1980 to 2010. Hypergamy ratios of 1 indicate educational symmetry between partners, and values greater than 1 reveal

status exchange. As expected, racially endogamous couples display hypergamy ratios very close to 1, indicating no exchange.

Figure 4 about here

The story is different for interracial couples. White wives in interracial marriages are much more likely to be educationally hypergamous (“marry up” in education) than their counterparts in intraracial marriages. More importantly, white hypergamy has not decreased over time. The hypergamy ratio among black husbands/white wives was 1.5 in 1980, rose to 1.7 in 1990 and 2000, and then returned to 1.5 in 2010. This means that in 1980, white women in interracial marriages were 50 percent more likely than white women in intraracial marriages to have a husband with more education than themselves; strikingly, the hypergamy ratio was the *same* in 2010, even after 30 years of increasing prevalence and acceptance of interracial marriage.

The finding is nearly identical among black male/white female cohabiters. The hypergamy ratio lingers around 1.6 for the entire period of observation, without indication of a decline in status exchange as interracial couples become more prevalent.

We now move to the unions formed by a white man and a black woman, also presented in Figures 4A and 4B. Consistent with prior research (Qian 1997), exchange is weaker among white male/black female unions with the hypergamy ratio varying between 1 and 1.2 over time. Again, there is virtually no difference between married and cohabiting couples, except in the recent past, when exchange declines among marriages and increases among cohabitations. This increase suggests a possible convergence in exchange across gender combinations for cohabiting couples, although it is too early to tell if this change constitutes trend.

The main conclusion from Figure 4 is that status exchange among black male/white female couples has not declined over time in spite of the fact that these unions are increasing in number. This refutes *Hypothesis 1*. Furthermore, exchange is equally strong for both marriages and cohabitations, refuting *Hypothesis 2* and suggesting that the “principles of cohesion” are similar across these union types among these young couples, at least with respect to the exchange of educational for racial status.

**What Drives Exchange And What Does It Tell Us About Racial Distances?** The hypergamy ratio is a useful summary measure but it conflates two factors driving exchange—the higher probability of marrying a white partner for both blacks and whites as their education increases (“educational boundaries”), and a direct trading of resources in interracial marriage resulting in excess white educational hypergamy and the avoidance of white hypogamy (“dyadic exchange”). The final part of the analysis distinguishes these two components. Given that white male/black female couples show very weak evidence of exchange, the analysis focuses on black male/white female unions. We estimate Equation 2 separately for married and cohabiting couples. Appendix Tables 4A and 4B offer the full set of parameter estimates, standard errors, and significance tests.

Figure 5A displays the educational boundary parameters for married couples. These parameters capture the odds of racial intermarriage for black men and white women as their education increases. Given that three educational categories are used, two contrasts are estimated: the difference in odds of intermarriage between those with some college or more versus those with a high school diploma or less, and the difference between college graduates versus those with less than a college degree.



As predicted by theory, educational boundaries are largely significant and positive for black men. These parameters indicate that as the education of black men increases, their chances of having a white wife substantially increases. For example, in 1980 black men with at least some college had 63 percent higher odds of marrying a white woman than those with a high school diploma, and black male college graduates were 47 percent more likely to marry a white woman compared to black men without a college degree. Educational boundaries for black men declined in the most recent two decades, though they have remained statistically significant. In 2000, the only significant educational boundary captures the higher likelihood for black men with some college to marry a black wife compared to men with lower education. In 2010, a college degree is the main distinguishing boundary: black male college graduates have 20 percent higher odds of marrying a white woman than black men with lower levels of schooling.

Interestingly, white wives' educational boundaries became stronger as black husbands' were weakening. White educational boundaries are largely insignificant at the conventional  $p < 0.05$  level among white women in 1980 and 1990. But white female educational boundaries increase in (negative) magnitude and become statistically significant in 2000 and 2010, signaling a growing avoidance of black men as the education of white women increases in these later years. In 2000, the odds of interracial marriage among college-educated white women were 0.75 as large as women with lower levels of education; in 2010, college-educated women have odds of marrying a black man only 0.68 as large as white women with lower levels of education. Thus, as black men's educational boundaries declined across cohorts, these boundaries increased across cohorts among white women. This change probably emerges from the growing relevance of education as an asset for women in the marriage market and the decline in traditional gender patterns in racial intermarriage. The result of these trends for men and women, when considered

jointly, is that the educational boundary component of exchange remained relatively constant across cohorts.

Figure 5B shows dyadic exchange, distinguishing white hypergamy (expected to be positive) and white hypogamy (expected to be negative). Two sets of dyadic exchange parameters are shown: the total effect before controlling for educational boundaries, and the effect net of educational boundaries.

The comparison provides information on the extent of confounding that is prevalent in the status exchange literature, which has thus far focused on the dyadic, direct trading of race for educational resources among partners. As shown in Figure 5B, the excess white hypergamy disappears or substantially declines after accounting for educational boundaries consistently over time. In 1980, shown in the leftmost panel, the odds of white hypergamy are 90 percent higher than educational homogamy, while the odds of white hypogamy were only 36 percent higher. This result would signal an “excess” white hypergamy in black male/white female marriages, consistent with dyadic exchange. However, after accounting for educational boundaries, white hypergamy and white hypogamy are extremely similar and statistically indistinguishable, reaching 25 percent and 43 percent respectively. This indicates that mixed couples are more likely to be educationally heterogamous than racially endogamous couples but not in a particular direction that favors white hypergamy. This result is consistent over time with the exception of 2000, when there is some indication of white hypergamy. Besides this exception, there is no indication of excess white hypergamy after the educational boundary component of exchange has been accounted for (in contrast, total dyadic exchange parameters without controls for educational boundaries are comparable—and lead to similar conclusions—as the hypergamy ratios).

The distinction of two components of exchange yields an important finding. Exchange is better described as emerging from educational boundaries rather than as a direct trade between spouses. Indeed, exchange appears to be largely a by-product of growing chances of racial intermarriage for blacks as their education increases, and declining chances of intermarriage for whites as their education increases.

Figure 6 replicates the analysis of status exchange components for cohabiters. According to Panel A, the centrality of educational boundaries is even more pronounced among cohabiters than among married couples. Educational boundaries are extremely large in 1980 and less pronounced but still substantial in 1990-2010. Black men who have some college education have odds 30 percent higher than their counterparts with a high school or less to cohabit with a white woman in 1990, and the odds increase by 60 percent in 2000 and by 20 percent in 2010. Furthermore, educational boundaries tend to be more gender-symmetric than for married couples. Consistently over time, black men with higher education have higher chances of marrying white women while white women with higher education have lower chances of marrying black men. The single exception to this pattern is 1990, when educational boundaries for white women go in the direction opposite to theory, but the magnitude of these effects is rather small.

Figure 6B displays dyadic exchange parameters for cohabiting unions, and shows a pattern very similar to marriages. Before controlling for educational boundaries, white hypergamy tends to be positive and white hypogamy tends to be negative across cohorts, signaling again a dyadic race-by-education exchange between partners. These parameter estimates change once educational boundaries are accounted for, demonstrating that both white hypergamy and hypogamy are more prevalent than homogamy in interracial cohabitations

compared to racially endogamous cohabitations. However, there is no indication of excess white hypergamy. In other words, interracial cohabiters are less similar to each other in terms of their education, but not in a direction favoring white hypergamy. As with educational boundaries, a partial exception is 1990, in which dyadic exchange plays a more important role. For all other periods, educational boundaries appear to account for white educational hypergamy, rather than a direct trading of racial-for-educational status.

These findings suggest that partners in interracial marriages and cohabitations do not directly exchange sources of status to achieve a mutually beneficial arrangement. Instead, individuals appear to enact a preference for whiteness even if they are unaware of it (Quillian 2006). Such preference is not just non-hierarchical in-group favoritism. Rather, in a racially stratified society where whiteness is a source of advantage, the odds that black persons partner with a white person increases with their education—regardless of the education of the potential white partner—and conversely, the odds that white individuals have a black partner decrease with their education—regardless of the education of the potential black partner.

**Discussion.** Even if the boundary between blacks and whites is still the most powerful division in the American marriage market (Rosenfeld 2008), the prevalence and stated acceptance of unions between blacks and whites has increased dramatically. These trends have occurred in context of a substantial change of race relations in which blatant racial prejudice and discrimination have given way to strong norms against overt racism, while socioeconomic gaps between blacks and whites remain persistently high.

In this context it is relevant to examine trends in status exchange in black/white unions. Status exchange provides a strong test of racial stratification in the marriage market. Simply put,

if status exchange persists over time, there is indication that race is still *treated* as a hierarchical attribute in the marriage market (Kalmijn 2010). Indeed, we find compelling evidence that status exchange has remained strong among black male/white female couples from 1980 through 2010. Moreover, while some have claimed that changes in patterns of intermarriage may be offset by diverging trends among the growing number of cohabitations, we find that status exchange trends among black male/white female unions are similar across type of union. In contrast, status exchange is slight among the small but growing number of white male/black female couples.

Overall, our findings align with recent scholarship arguing that racial hierarchical distinctions *persist* in American society *in spite of* the decline in overt racism (Bobo and Smith 1998; Bobo 2011; Bonilla-Silva 2001; Jackman 1994; McConahay 1986; Sears 1988). The evidence presented here adds further caution to the claim that the U.S. has moved or is moving toward a colorblind society over the last three decades.

Furthermore, the analysis takes issue with the very notion of exchange, as traditionally understood in the literature. Exchange has been treated as a direct trade of resources between black and white partners. Merton (1941:372) defined “a reciprocal compensatory situation in which the black male ‘exchanges’ his higher economic position for the white female’s higher caste status,” and Davis (1941:389) indicated that “the class achievements of certain Negro males enable them to bargain for females of the white caste who stand low in the class hierarchy” (cited in Gullickson and Torche 2014). This analysis has delved into the components of status exchange, distinguishing educational boundaries from dyadic exchange. Educational boundaries capture the growing probability of marrying a white person as educational attainment increases for both blacks and whites, which results in opposing probabilities of intermarriage for these racial groups. Dyadic exchange, in turn, captures the excess white educational hypergamy

in interracial marriages compared with intraracial marriages, net of educational boundaries. If educational boundaries are not properly modeled, they will appear as dyadic exchange—a limitation affecting most analyses of exchange to date.

The analysis of status exchange's components yields clear findings. For both married and cohabiting couples, educational boundaries largely account for status exchange. Education increases the chances that black men intermarry (regardless of the educational level of the potential white spouse) and/or decreases the chances that white women intermarry (again, regardless of the educational level of the potential black spouse). These phenomena result in educational asymmetry among the interracial couples that are formed. Critically, net of these educational boundaries, white hypergamy resulting from dyadic exchange is not more likely than white hypogamy among interracial couples. In other words, interracial couples are more educationally heterogamous than intraracial couples, but this is driven by the increasing propensity to marry a white spouse for both blacks and whites as their education increases rather than by a higher prevalence of individual dyads where one partner directly trades racial status for the other partner's educational status.

The distinction between educational boundaries and dyadic exchange is important because educational boundaries apply to all interracial couples and not only those that are educationally heterogamous. That is, educational boundaries capture a more general phenomenon than originally thought by theorists of status exchange, signaling that whiteness is treated as a source of status in the U.S. marriage market. Strikingly, the growing prevalence of racial intermarriage has not resulted in the decline of status exchange. In contrast, as suggested by similar patterns of racial intermarriage in Brazil, the growth of racial intermarriage may even paradoxically *facilitate* the expression of a black/white hierarchy by making interracial unions

less exceptional, the disadvantage associated with blackness more acceptable, and the gains associated with marrying a white person more valuable (Telles 2004, Gullickson and Torche 2014).

This analysis has focused on black/white intermarriage given the strong barriers between these groups historically formed in the U.S through centuries of slavery, segregation, and discrimination. Other work has extended the question about status exchange to intermarriage between whites and both Latino and Asian minorities (Fu 2001, Hwang et al. 1995, Qian 1997), but no research to date has ascertained the specific factors—educational barriers or dyadic exchange—driving what the literature has identified as exchange patterns among these ethno-racial groups. Extending the question about the sources of exchange for these groups is an important task, which is beyond the scope of this article. Such analysis would require an assessment of the changing prevalence of different ethno-racial marital combination and the historically-shaped sources of stratification between groups, as well as an adequate treatment of the gender-specific patterns of partner selection for different ethno-racial groups (Feliciano et al 2009, Lin and Lundquist 2010). We trust future research will undertake this task, as it will provide needed information about the changing contours and patterns of ethno-racial stratification in the changing U.S. marriage market.

## Notes

<sup>1</sup> Given the small number and difficulty in identifying individuals in same-sex unions (Black et al. 2006, Gates 2009, Gates, and Steinberger 2009), the analysis is restricted to heterosexual marriages and cohabitations. Individuals in same-sex relationships are included in the denominator when calculating the proportion of individuals who are married, cohabiting, or single.

<sup>2</sup> As shown in Appendix Table 1, there is substantial variation in educational attainment across all marital status groups.

<sup>3</sup> Ancillary analysis of the 1990 Census using an identical strategy to identify cohabiters as the one used in 1980 indicates that 19 percent of those classified as cohabiters are indeed roommates. We expect the misclassification error to be of similar magnitude in 1980.

<sup>4</sup> There are three educational categories for each partner, and therefore three sets of educational odds ratios (high school degree or less v. some college, high school degree or less v. college graduate, and some college v. college graduate).

<sup>5</sup> The descriptive analysis includes all ethno-racial groups in the denominator to calculate the proportion of black/white marriages because it gives a clearer picture of the social visibility of white/black intermarriage. Given the growth in the relative size of other ethno-racial groups, particularly Hispanics, the increase over time in the proportion of black/white marriages would be more pronounced if these groups were excluded from the denominator.



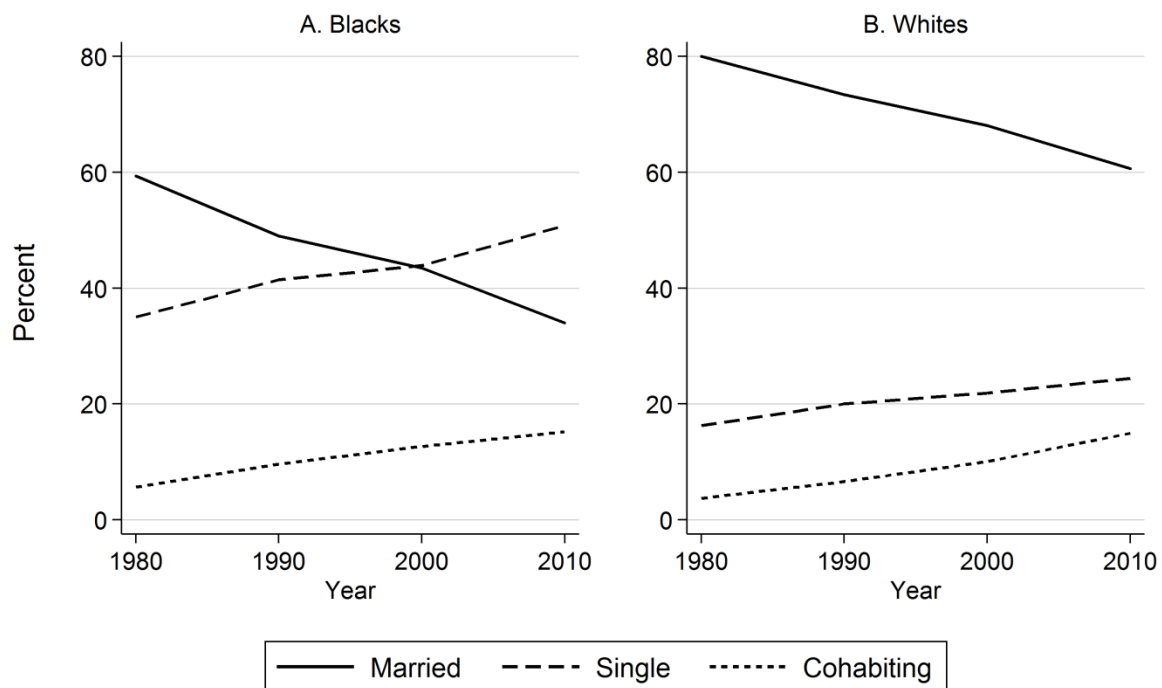
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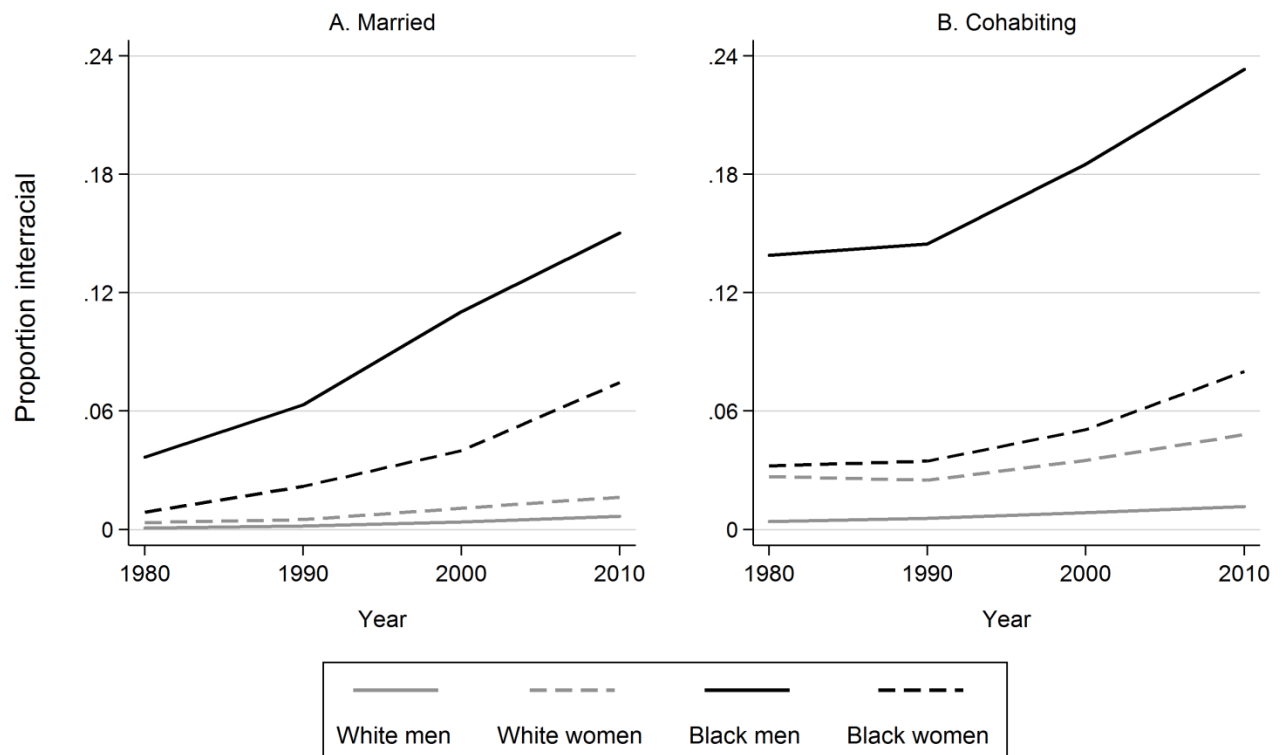
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**Figure 1. Percentage of black and white individuals 25-34 years of age who are married, cohabiting, or not in a union, 1980-2010.**



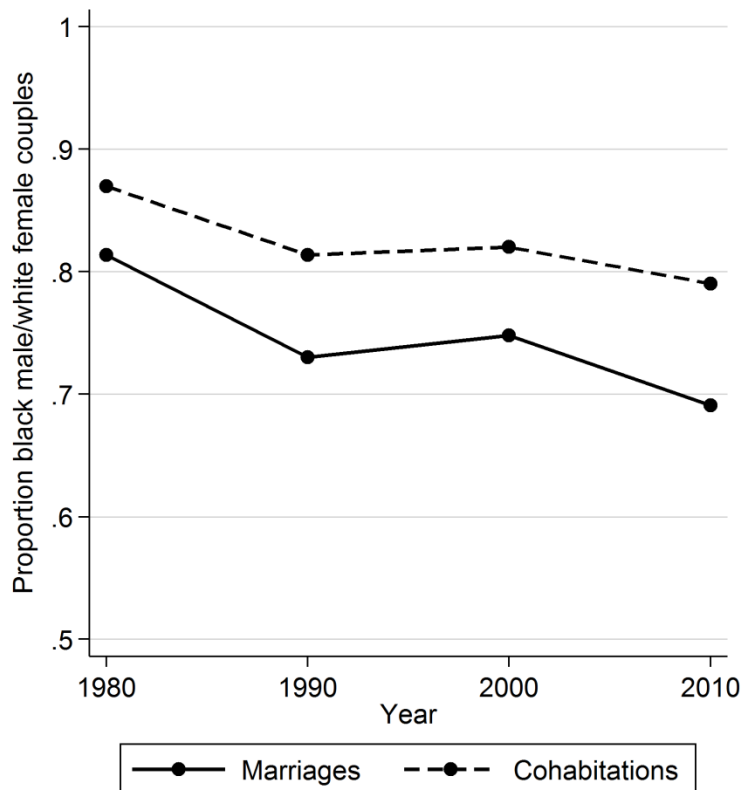
**Source:** Cross-sectional U.S. Census datasets, distributed by the Integrated Public Use Microdata website (IPUMS-USA). Data points in 1980, 1990, and 2000 are estimated from the “long form” of the decennial U.S. Census. Data points in 2010 are estimated from the pooled 2008-2012 American Community Survey.

**Figure 2. Proportion of 25-34 white individuals married/cohabiting with blacks and proportion of 25-34 black individuals married/cohabiting with whites, 1980-2010.**



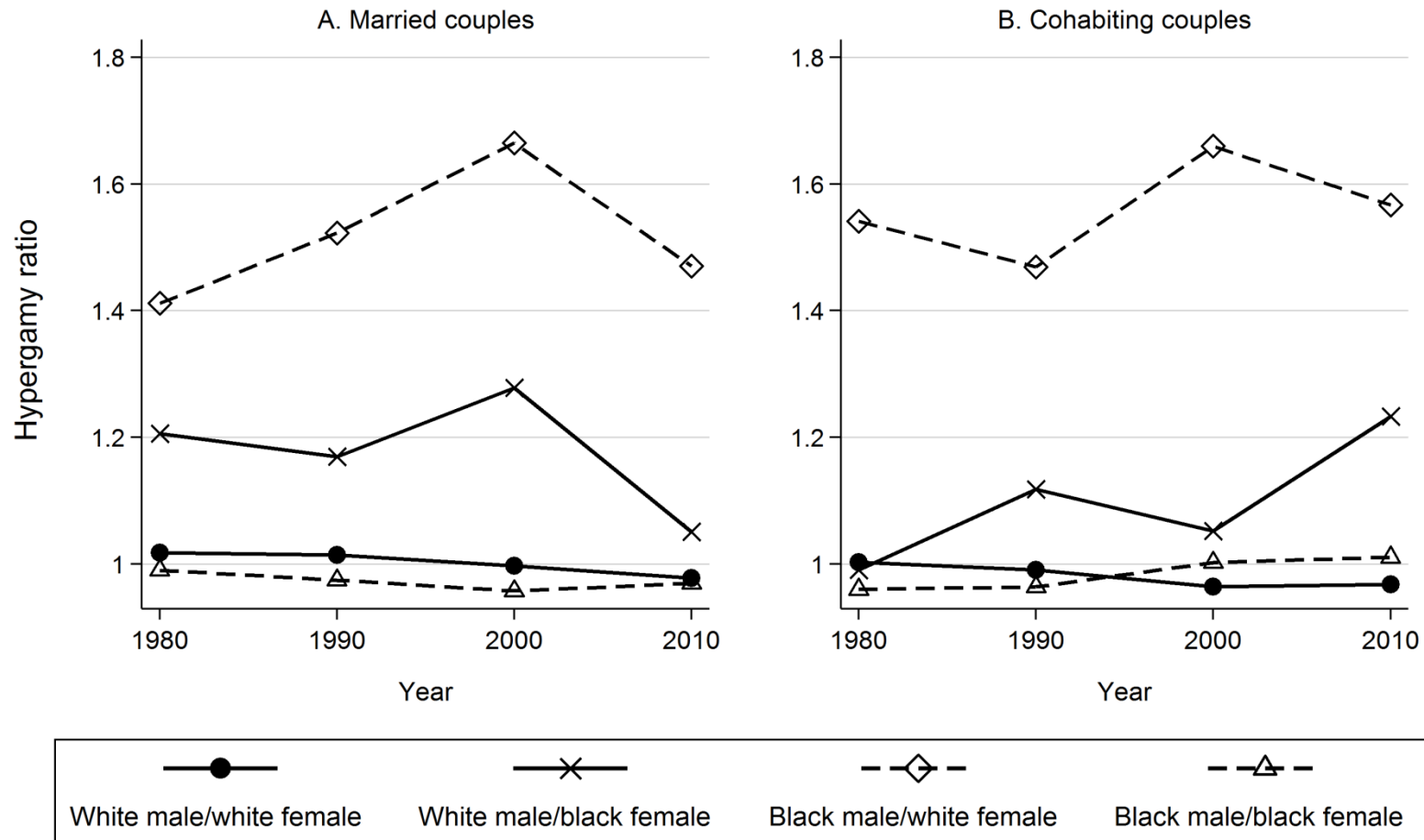
**Source:** Cross-sectional U.S. Census datasets, distributed by the Integrated Public Use Microdata website (IPUMS-USA). Data points in 1980, 1990, and 2000 are estimated from the “long form” of the decennial U.S. Census. Data points in 2010 are estimated from the pooled 2008-2012 American Community Survey.

**Figure 3. Gender asymmetry in black/white marriages and cohabitations: Proportion of white/black young couples (male partner 25-34) formed by a black man and a white woman, 1980-2010.**



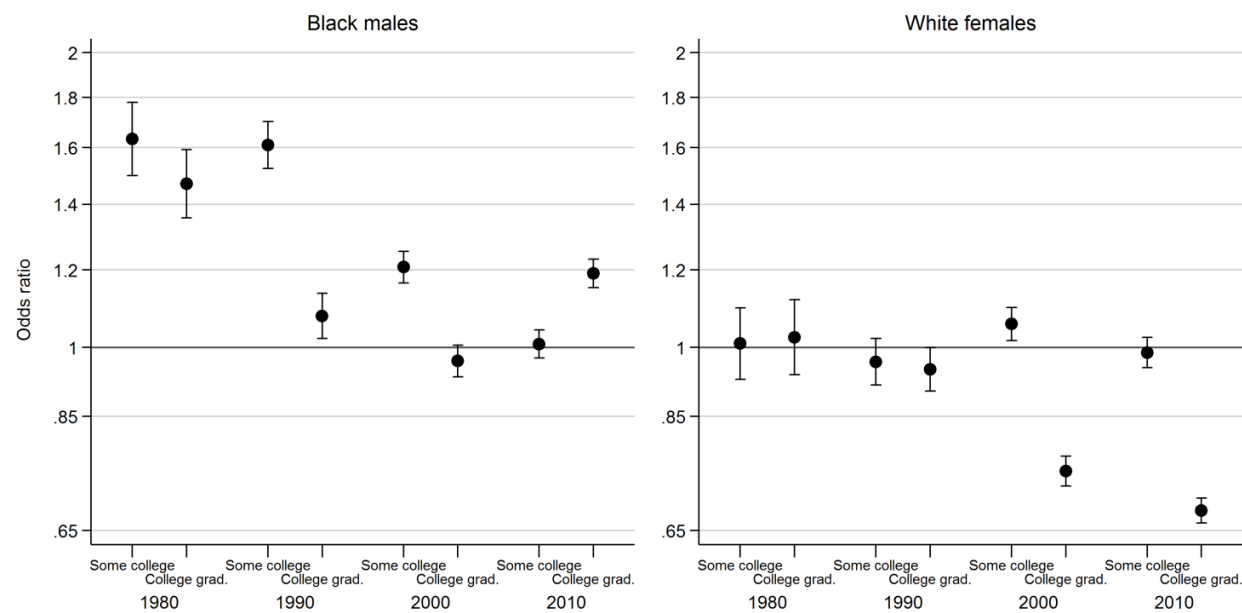
**Source:** Cross-sectional U.S. Census datasets, distributed by the Integrated Public Use Microdata website (IPUMS-USA). Data points in 1980, 1990, and 2000 are estimated from the “long form” of the decennial U.S. Census. Data points in 2010 are estimated from the pooled 2008-2012 American Community Survey.

**Figure 4. Hypergamy ratio among young marriages and cohabitations (male partner 25-34), 1980-2010.**

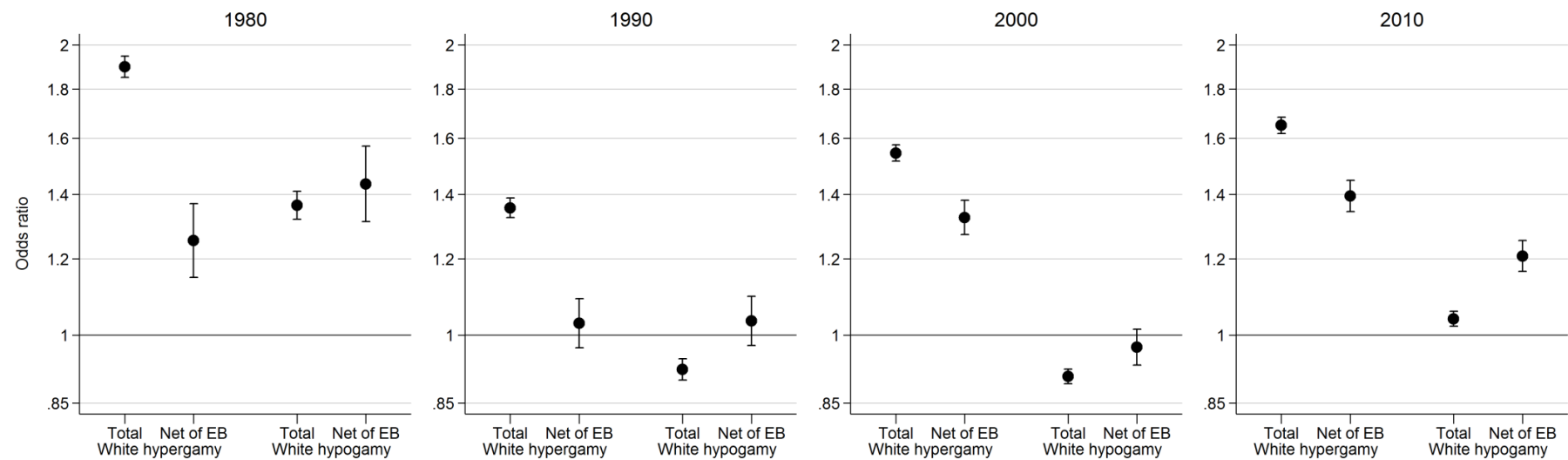


**Source:** Authors' calculations based on observed educational hypergamy and hypogamy frequencies and frequencies expected using quasi-symmetry model (Appendix Table 3) among racially endogamous and interracial couples.

**Figure 5A. Educational boundary parameters. Black male/white female young married couples (husband 25-34), 1980-2010.**



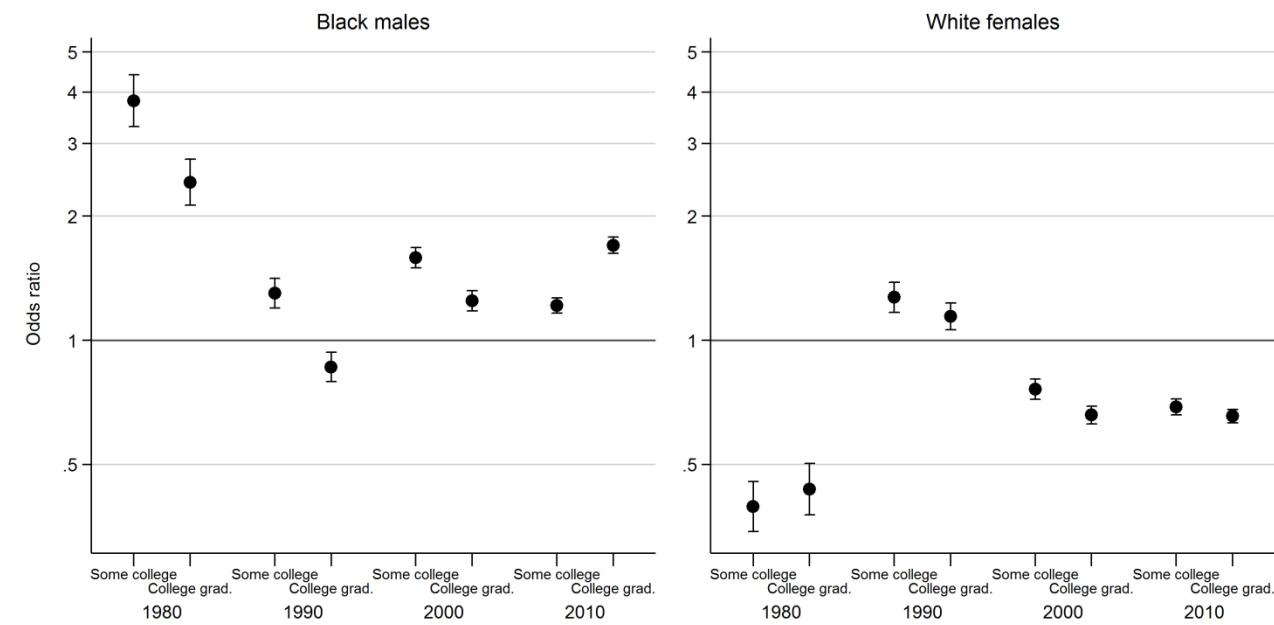
**Figure 5B. Dyadic exchange parameters. Total effect, and net of educational boundaries. Black male/white female young married couples (husband 25-34), 1980-2010.**



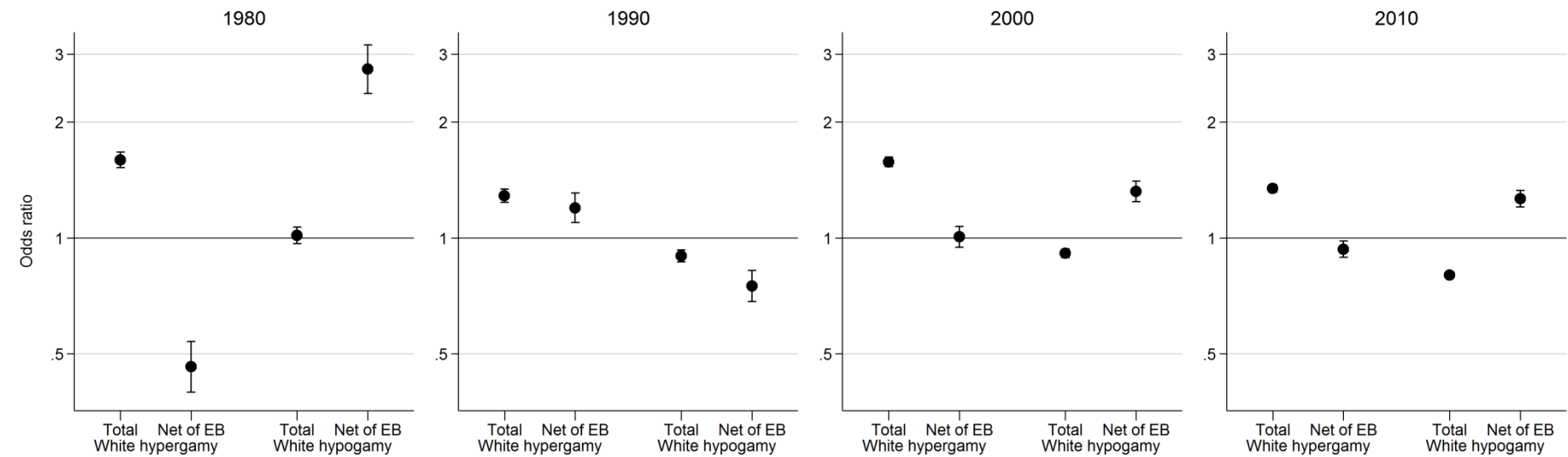
Source: Appendix Table 4A.



**Figure 6A. Educational boundary parameters. Black male/white female young cohabiting couples (male partner 25-34), 1980-2010.**



**Figure 6B. Dyadic exchange parameters. Total effect, and net of educational boundaries. Black male/white female young cohabiting couples (male partner 25-34), 1980-2010.**



Source: Appendix Table 4B

**Appendix Table 1. Educational distribution by partnership types, among black men, black women, white men, and white women, individuals 25-34 years old, 1980-2010.**

	Black men				Black women				White men				White women			
	HS grad or less	Some college	College grad	Total	HS grad or less	Some college	College grad	Total	HS grad or less	Some college	College grad	Total	HS grad or less	Some college	College grad	Total
1980																
Married	63%	32%	5%	100%	64%	31%	5%	100%	48%	39%	13%	100%	57%	35%	7%	100%
Single	58%	35%	7%	100%	69%	27%	5%	100%	35%	46%	19%	100%	48%	39%	13%	100%
Cohabiting	68%	29%	3%	100%	68%	29%	4%	100%	45%	42%	14%	100%	49%	40%	12%	100%
1990																
Married	51%	34%	15%	100%	45%	38%	17%	100%	43%	31%	26%	100%	42%	34%	24%	100%
Single	46%	33%	21%	100%	55%	33%	12%	100%	33%	31%	37%	100%	33%	34%	33%	100%
Cohabiting	65%	26%	9%	100%	56%	35%	9%	100%	52%	29%	19%	100%	47%	33%	20%	100%
2000																
Married	54%	28%	17%	100%	47%	31%	22%	100%	43%	25%	32%	100%	39%	27%	34%	100%
Single	49%	27%	24%	100%	56%	27%	17%	100%	35%	24%	41%	100%	34%	25%	41%	100%
Cohabiting	68%	23%	9%	100%	59%	28%	13%	100%	52%	23%	25%	100%	46%	26%	29%	100%
2010																
Married	42%	34%	24%	100%	32%	36%	33%	100%	35%	27%	38%	100%	27%	28%	45%	100%
Single	41%	34%	25%	100%	44%	35%	21%	100%	30%	28%	42%	100%	27%	28%	45%	100%
Cohabiting	58%	30%	12%	100%	44%	36%	20%	100%	47%	26%	27%	100%	35%	30%	35%	100%

**Source:** Cross-sectional U.S. Census datasets, distributed by the Integrated Public Use Microdata website (IPUMS-USA). Data points in 1980, 1990, and 2000 are estimated from the “long form” of the decennial U.S. Census. Data points in 2010 are estimated from the pooled 2008-2012 American Community Survey. Same-sex couples excluded from the analytical sample.

**Appendix Table 2. Cell frequencies, cross-classification of partners' education and partners' race for married and cohabiting young couples (male partner 25-34), 1980-2010.**

Year	Husband's education	Married couples			Frequency	Cohabiting couples				
		Wife's education	H's race	W's race		Male partner's ed.	Female partner's ed.	M's race	F's race	Frequency
1980	HS graduate or less	HS graduate or less	White	White	3700580	HS graduate or less	HS graduate or less	White	White	155560
1980	HS graduate or less	HS graduate or less	White	Black	2500	HS graduate or less	HS graduate or less	White	Black	560
1980	HS graduate or less	HS graduate or less	Black	White	12180	HS graduate or less	HS graduate or less	Black	White	5260
1980	HS graduate or less	HS graduate or less	Black	Black	418680	HS graduate or less	HS graduate or less	Black	Black	41460
1980	HS graduate or less	Some college	White	White	682540	HS graduate or less	Some college	White	White	45440
1980	HS graduate or less	Some college	White	Black	740	HS graduate or less	Some college	White	Black	200
1980	HS graduate or less	Some college	Black	White	3340	HS graduate or less	Some college	Black	White	1620
1980	HS graduate or less	Some college	Black	Black	94220	HS graduate or less	Some college	Black	Black	10600
1980	HS graduate or less	College graduate	White	White	43140	HS graduate or less	College graduate	White	White	3820
1980	HS graduate or less	College graduate	White	Black	40	HS graduate or less	College graduate	White	Black	0.5
1980	HS graduate or less	College graduate	Black	White	260	HS graduate or less	College graduate	Black	White	120
1980	HS graduate or less	College graduate	Black	Black	5520	HS graduate or less	College graduate	Black	Black	580
1980	Some college	HS graduate or less	White	White	1498340	Some college	HS graduate or less	White	White	74880
1980	Some college	HS graduate or less	White	Black	1020	Some college	HS graduate or less	White	Black	360
1980	Some college	HS graduate or less	Black	White	5860	Some college	HS graduate or less	Black	White	1980
1980	Some college	HS graduate or less	Black	Black	103500	Some college	HS graduate or less	Black	Black	9580
1980	Some college	Some college	White	White	1886720	Some college	Some college	White	White	99480
1980	Some college	Some college	White	Black	1340	Some college	Some college	White	Black	360
1980	Some college	Some college	Black	White	5920	Some college	Some college	Black	White	2360
1980	Some college	Some college	Black	Black	132820	Some college	Some college	Black	Black	9900
1980	Some college	College graduate	White	White	226540	Some college	College graduate	White	White	16660
1980	Some college	College graduate	White	Black	240	Some college	College graduate	White	Black	60
1980	Some college	College graduate	Black	White	960	Some college	College graduate	Black	White	460
1980	Some college	College graduate	Black	Black	17060	Some college	College graduate	Black	Black	820
1980	College graduate	HS graduate or less	White	White	179480	College graduate	HS graduate or less	White	White	9280
1980	College graduate	HS graduate or less	White	Black	240	College graduate	HS graduate or less	White	Black	20
1980	College graduate	HS graduate or less	Black	White	520	College graduate	HS graduate or less	Black	White	300
1980	College graduate	HS graduate or less	Black	Black	6260	College graduate	HS graduate or less	Black	Black	540
1980	College graduate	Some college	White	White	697680	College graduate	Some college	White	White	31240
1980	College graduate	Some college	White	Black	720	College graduate	Some college	White	Black	220
1980	College graduate	Some college	Black	White	1760	College graduate	Some college	Black	White	320
1980	College graduate	Some college	Black	Black	22480	College graduate	Some college	Black	Black	980
1980	College graduate	College graduate	White	White	356120	College graduate	College graduate	White	White	20960
1980	College graduate	College graduate	White	Black	400	College graduate	College graduate	White	Black	100
1980	College graduate	College graduate	Black	White	800	College graduate	College graduate	Black	White	140
1980	College graduate	College graduate	Black	Black	12420	College graduate	College graduate	Black	Black	680
1990	HS graduate or less	HS graduate or less	White	White	2465109	HS graduate or less	HS graduate or less	White	White	283376
1990	HS graduate or less	HS graduate or less	White	Black	3175	HS graduate or less	HS graduate or less	White	Black	1255
1990	HS graduate or less	HS graduate or less	Black	White	12354	HS graduate or less	HS graduate or less	Black	White	7641
1990	HS graduate or less	HS graduate or less	Black	Black	217275	HS graduate or less	HS graduate or less	Black	Black	57687
1990	HS graduate or less	Some college	White	White	903715	HS graduate or less	Some college	White	White	107940
1990	HS graduate or less	Some college	White	Black	1976	HS graduate or less	Some college	White	Black	583
1990	HS graduate or less	Some college	Black	White	4533	HS graduate or less	Some college	Black	White	2485
1990	HS graduate or less	Some college	Black	Black	94995	HS graduate or less	Some college	Black	Black	21819
1990	HS graduate or less	College graduate	White	White	202825	HS graduate or less	College graduate	White	White	21933
1990	HS graduate or less	College graduate	White	Black	222	HS graduate or less	College graduate	White	Black	76
1990	HS graduate or less	College graduate	Black	White	988	HS graduate or less	College graduate	Black	White	797
1990	HS graduate or less	College graduate	Black	Black	18162	HS graduate or less	College graduate	Black	Black	2667
1990	Some college	HS graduate or less	White	White	830635	Some college	HS graduate or less	White	White	78187
1990	Some college	HS graduate or less	White	Black	1452	Some college	HS graduate or less	White	Black	439
1990	Some college	HS graduate or less	Black	White	6072	Some college	HS graduate or less	Black	White	2083
1990	Some college	HS graduate or less	Black	Black	58562	Some college	HS graduate or less	Black	Black	10985
1990	Some college	Some college	White	White	1222642	Some college	Some college	White	White	105393
1990	Some college	Some college	White	Black	3647	Some college	Some college	White	Black	1029
1990	Some college	Some college	Black	White	8470	Some college	Some college	Black	White	3536
1990	Some college	Some college	Black	Black	118442	Some college	Some college	Black	Black	15804
1990	Some college	College graduate	White	White	419625	Some college	College graduate	White	White	37860
1990	Some college	College graduate	White	Black	1222	Some college	College graduate	White	Black	293
1990	Some college	College graduate	Black	White	2841	Some college	College graduate	Black	White	1141
1990	Some college	College graduate	Black	Black	37386	Some college	College graduate	Black	Black	3596
1990	College graduate	HS graduate or less	White	White	226821	College graduate	HS graduate or less	White	White	19122
1990	College graduate	HS graduate or less	White	Black	322	College graduate	HS graduate or less	White	Black	113
1990	College graduate	HS graduate or less	Black	White	948	College graduate	HS graduate or less	Black	White	443
1990	College graduate	HS graduate or less	Black	Black	11121	College graduate	HS graduate or less	Black	Black	2015
1990	College graduate	Some college	White	White	617713	College graduate	Some college	White	White	44100
1990	College graduate	Some college	White	Black	1378	College graduate	Some college	White	Black	399
1990	College graduate	Some college	Black	White	2393	College graduate	Some college	Black	White	912
1990	College graduate	Some college	Black	Black	31782	College graduate	Some college	Black	Black	3571
1990	College graduate	College graduate	White	White	1244466	College graduate	College graduate	White	White	78994
1990	College graduate	College graduate	White	Black	2526	College graduate	College graduate	White	Black	431
1990	College graduate	College graduate	Black	White	4492	College graduate	College graduate	Black	White	1141
1990	College graduate	College graduate	Black	Black	47057	College graduate	College graduate	Black	Black	3568
2000	HS graduate or less	HS graduate or less	White	White	1643624	HS graduate or less	HS graduate or less	White	White	332265
2000	HS graduate or less	HS graduate or less	White	Black	5807	HS graduate or less	HS graduate or less	White	Black	2437
2000	HS graduate or less	HS graduate or less	Black	White	22359	HS graduate or less	HS graduate or less	Black	White	16356
2000	HS graduate or less	HS graduate or less	Black	Black	191146	HS graduate or less	HS graduate or less	Black	Black	78402
2000	HS graduate or less	Some college	White	White	617701	HS graduate or less	Some college	White	White	117453

**Appendix Table 2, Continued.**

Year	Married couples					Cohabiting couples				
	Husband's education	Wife's education	H's race	W's race	Frequency	Male partner's ed.	Female partner's ed.	M's race	F's race	Frequency
2000	HS graduate or less	Some college	White	Black	3837	HS graduate or less	Some college	White	Black	987
2000	HS graduate or less	Some college	Black	White	8086	HS graduate or less	Some college	Black	White	5573
2000	HS graduate or less	Some college	Black	Black	78292	HS graduate or less	Some college	Black	Black	25874
2000	HS graduate or less	College graduate	White	White	274665	HS graduate or less	College graduate	White	White	41764
2000	HS graduate or less	College graduate	White	Black	981	HS graduate or less	College graduate	White	Black	508
2000	HS graduate or less	College graduate	Black	White	3187	HS graduate or less	College graduate	Black	White	1652
2000	HS graduate or less	College graduate	Black	Black	25089	HS graduate or less	College graduate	Black	Black	6605
2000	Some college	HS graduate or less	White	White	457024	Some college	HS graduate or less	White	White	73594
2000	Some college	HS graduate or less	White	Black	1743	Some college	HS graduate or less	White	Black	840
2000	Some college	HS graduate or less	Black	White	8410	Some college	HS graduate or less	Black	White	4136
2000	Some college	HS graduate or less	Black	Black	44525	Some college	HS graduate or less	Black	Black	13578
2000	Some college	Some college	White	White	589818	Some college	Some college	White	White	86448
2000	Some college	Some college	White	Black	2724	Some college	Some college	White	Black	538
2000	Some college	Some college	Black	White	9561	Some college	Some college	Black	White	4135
2000	Some college	Some college	Black	Black	70043	Some college	Some college	Black	Black	14596
2000	Some college	College graduate	White	White	390557	Some college	College graduate	White	White	56429
2000	Some college	College graduate	White	Black	1409	Some college	College graduate	White	Black	597
2000	Some college	College graduate	Black	White	4575	Some college	College graduate	Black	White	2181
2000	Some college	College graduate	Black	Black	33702	Some college	College graduate	Black	Black	5047
2000	College graduate	HS graduate or less	White	White	180466	College graduate	HS graduate or less	White	White	26244
2000	College graduate	HS graduate or less	White	Black	1089	College graduate	HS graduate or less	White	Black	423
2000	College graduate	HS graduate or less	Black	White	2198	College graduate	HS graduate or less	Black	White	1142
2000	College graduate	HS graduate or less	Black	Black	12656	College graduate	HS graduate or less	Black	Black	2705
2000	College graduate	Some college	White	White	352406	College graduate	Some college	White	White	49309
2000	College graduate	Some college	White	Black	1377	College graduate	Some college	White	Black	613
2000	College graduate	Some college	Black	White	3924	College graduate	Some college	Black	White	1246
2000	College graduate	Some college	Black	Black	22131	College graduate	Some college	Black	Black	3913
2000	College graduate	College graduate	White	White	1343780	College graduate	College graduate	White	White	150316
2000	College graduate	College graduate	White	Black	4605	College graduate	College graduate	White	Black	1537
2000	College graduate	College graduate	Black	White	7686	College graduate	College graduate	Black	White	2241
2000	College graduate	College graduate	Black	Black	56018	College graduate	College graduate	Black	Black	5800
2010	HS graduate or less	HS graduate or less	White	White	802086	HS graduate or less	HS graduate or less	White	White	313782
2010	HS graduate or less	HS graduate or less	White	Black	6558	HS graduate or less	HS graduate or less	White	Black	3505
2010	HS graduate or less	HS graduate or less	Black	White	15513	HS graduate or less	HS graduate or less	Black	White	19913
2010	HS graduate or less	HS graduate or less	Black	Black	84082	HS graduate or less	HS graduate or less	Black	Black	60688
2010	HS graduate or less	Some college	White	White	491512	HS graduate or less	Some college	White	White	175393
2010	HS graduate or less	Some college	White	Black	4069	HS graduate or less	Some college	White	Black	2853
2010	HS graduate or less	Some college	Black	White	10791	HS graduate or less	Some college	Black	White	9101
2010	HS graduate or less	Some college	Black	Black	58954	HS graduate or less	Some college	Black	Black	31967
2010	HS graduate or less	College graduate	White	White	269042	HS graduate or less	College graduate	White	White	70507
2010	HS graduate or less	College graduate	White	Black	2254	HS graduate or less	College graduate	White	Black	739
2010	HS graduate or less	College graduate	Black	White	4190	HS graduate or less	College graduate	Black	White	2714
2010	HS graduate or less	College graduate	Black	Black	23509	HS graduate or less	College graduate	Black	Black	9335
2010	Some college	HS graduate or less	White	White	265289	Some college	HS graduate or less	White	White	84104
2010	Some college	HS graduate or less	White	Black	2621	Some college	HS graduate or less	White	Black	1232
2010	Some college	HS graduate or less	Black	White	7188	Some college	HS graduate or less	Black	White	5349
2010	Some college	HS graduate or less	Black	Black	29945	Some college	HS graduate or less	Black	Black	14481
2010	Some college	Some college	White	White	507946	Some college	Some college	White	White	131294
2010	Some college	Some college	White	Black	5397	Some college	Some college	White	Black	1714
2010	Some college	Some college	Black	White	10187	Some college	Some college	Black	White	6902
2010	Some college	Some college	Black	Black	64936	Some college	Some college	Black	Black	26229
2010	Some college	College graduate	White	White	419207	Some college	College graduate	White	White	93559
2010	Some college	College graduate	White	Black	2497	Some college	College graduate	White	Black	1471
2010	Some college	College graduate	Black	White	7237	Some college	College graduate	Black	White	4165
2010	Some college	College graduate	Black	Black	36106	Some college	College graduate	Black	Black	10017
2010	College graduate	HS graduate or less	White	White	105203	College graduate	HS graduate or less	White	White	23545
2010	College graduate	HS graduate or less	White	Black	827	College graduate	HS graduate or less	White	Black	403
2010	College graduate	HS graduate or less	Black	White	2028	College graduate	HS graduate or less	Black	White	1406
2010	College graduate	HS graduate or less	Black	Black	7850	College graduate	HS graduate or less	Black	Black	2441
2010	College graduate	Some college	White	White	254770	College graduate	Some college	White	White	58719
2010	College graduate	Some college	White	Black	1853	College graduate	Some college	White	Black	931
2010	College graduate	Some college	Black	White	5111	College graduate	Some college	Black	White	2360
2010	College graduate	Some college	Black	Black	20079	College graduate	Some college	Black	Black	5371
2010	College graduate	College graduate	White	White	1360932	College graduate	College graduate	White	White	226468
2010	College graduate	College graduate	White	Black	7179	College graduate	College graduate	White	Black	2334
2010	College graduate	College graduate	Black	White	12119	College graduate	College graduate	Black	White	5317
2010	College graduate	College graduate	Black	Black	62095	College graduate	College graduate	Black	Black	10246

**Appendix Table 3. Parameter estimates from quasi-symmetry log-linear model of the relationship between education and interracial marriage. Young couples (male partner 25-34), 1980-2010.**

	1980	1990	2000	2010
Husband Some college (omitted category: High school)	0.043*** (0.001)	-0.406*** (0.001)	-0.664*** (0.001)	-0.514*** (0.001)
Husband College grad. (omitted category: High school)	-0.263*** (0.002)	-0.229*** (0.001)	-0.304*** (0.001)	-0.248*** (0.001)
Black husband (BH) (omitted category: White husband)	-0.118*** (0.007)	-0.561*** (0.005)	-0.466*** (0.004)	-0.714*** (0.004)
Some college * BH	-0.565*** (0.003)	-0.112*** (0.003)	-0.066*** (0.003)	0.073*** (0.004)
College graduate * BH	-1.320*** (0.007)	-0.818*** (0.004)	-0.711*** (0.004)	-0.472*** (0.005)
Wife some college (omitted category: High school)	-0.717*** (0.001)	-0.295*** (0.001)	-0.361*** (0.001)	0.061*** (0.001)
Wife college graduate (omitted category: High school)	-2.079*** (0.002)	-0.456*** (0.001)	0.101*** (0.001)	0.775*** (0.001)
Black wife (BW) (omitted category: White wife)	-2.062*** (0.007)	-1.873*** (0.005)	-1.697*** (0.004)	-1.552*** (0.004)
Some college * BW	0.095*** (0.003)	0.222*** (0.003)	0.117*** (0.004)	0.126*** (0.004)
College graduate * BW	0.155*** (0.007)	-0.023*** (0.004)	-0.291*** (0.004)	-0.327*** (0.005)
High school (HS) vs. Some college WW	1.911*** (0.002)	1.392*** (0.002)	1.236*** (0.002)	1.131*** (0.003)
HS vs. Some college BB	1.743*** (0.005)	1.528*** (0.006)	1.335*** (0.007)	1.097*** (0.009)
HS vs. Some college WB	1.272*** (0.023)	1.250*** (0.020)	0.939*** (0.016)	0.830*** (0.016)
HS vs. College graduate WW	5.398*** (0.005)	4.209*** (0.003)	3.793*** (0.003)	3.689*** (0.004)
HS vs. College graduate BB	5.048*** (0.021)	3.938*** (0.013)	3.569*** (0.012)	3.388*** (0.013)
HS vs. College graduate WB	4.274*** (0.064)	4.469*** (0.042)	3.541*** (0.025)	3.445*** (0.023)
Some college vs. College graduate WW	1.412*** (0.003)	1.761*** (0.002)	1.750*** (0.003)	1.858*** (0.003)
Some college vs. College graduate BB	1.467*** (0.014)	1.552*** (0.009)	1.675*** (0.010)	1.717*** (0.010)
Some college vs. College graduate WB	1.015*** (0.043)	1.712*** (0.027)	1.561*** (0.022)	1.563*** (0.019)
Endogamy	5.957*** (0.018)	4.960*** (0.014)	3.831*** (0.010)	3.091*** (0.011)
Endogamy * Mean education couple	-0.414*** (0.011)	-0.271*** (0.007)	-0.008 (0.005)	0.115*** (0.005)
Constant	15.124*** (0.001)	14.718*** (0.001)	14.313*** (0.001)	13.595*** (0.001)
Observations	36	36	36	36

Standard errors in parentheses; \*p<.10, \*\*p<.01, \*\*\*p<.001 (two-tailed significance tests).

**Appendix Table 4A. Parameter estimates from log-linear model of status exchange, with and without educational boundary controls. Young married couples (male partner 25-34), 1980-2010.<sup>1</sup>**

	1980		1990		2000		2010	
	Model A	Model B	Model A	Model B	Model A	Model B	Model A	Model B
Black male White female couples								
White female hypergamy	0.641*** (0.013)	0.226*** (0.045)	0.304*** (0.012)	0.028 (0.030)	0.435*** (0.010)	0.281*** (0.021)	0.501*** (0.010)	0.332*** (0.019)
White female hypogamy	0.310*** (0.017)	0.361*** (0.046)	-0.082*** (0.013)	0.034 (0.030)	-0.099*** (0.009)	-0.029 (0.022)	0.039*** (0.009)	0.189*** (0.019)
Educational boundaries								
Black male Some college (SC)		0.490*** (0.044)		0.476*** (0.028)		0.189*** (0.019)		0.008 (0.017)
Black male College grad (CG)		0.385*** (0.041)		0.074** (0.027)		-0.032 (0.019)		0.174*** (0.017)
White female SC		0.009 (0.043)		-0.034 (0.028)		0.055** (0.020)		-0.012 (0.018)
White female CG		0.024 (0.045)		-0.052 (0.026)		-0.291*** (0.018)		-0.384*** (0.015)
White male Black female couples								
White male hypergamy	0.331*** (0.035)	0.671*** (0.077)	0.087*** (0.020)	0.313*** (0.049)	0.275*** (0.015)	0.623*** (0.034)	0.026* (0.013)	-0.357*** (0.031)
White male hypogamy	0.163*** (0.027)	-0.276*** (0.079)	-0.026 (0.021)	-0.340*** (0.050)	0.042* (0.018)	-0.339*** (0.037)	0.002 (0.016)	0.315*** (0.029)
Educational boundaries								
Black female SC		-0.333*** (0.069)		0.003 (0.044)		-0.238*** (0.031)		0.206*** (0.028)
Black female CG		-0.253** (0.078)		-0.219*** (0.044)		-0.298*** (0.030)		0.322*** (0.024)
White male SC		0.267*** (0.074)		0.651*** (0.045)		0.308*** (0.031)		-0.153*** (0.025)
White male CG		0.666*** (0.067)		-0.007 (0.044)		0.388*** (0.030)		-0.553*** (0.026)
Baseline parameters								
Male SC	-0.900*** (0.001)	-0.899*** (0.001)	-1.095*** (0.001)	-1.095*** (0.001)	-1.289*** (0.002)	-1.288*** (0.002)	-1.106*** (0.002)	-1.106*** (0.002)
Male CG	-3.019*** (0.002)	-3.020*** (0.002)	-2.378*** (0.002)	-2.378*** (0.002)	-2.192*** (0.002)	-2.194*** (0.002)	-2.017*** (0.003)	-2.018*** (0.003)
Black male	-5.554*** (0.007)	-5.708*** (0.009)	-5.099*** (0.006)	-5.295*** (0.009)	-4.269*** (0.005)	-4.304*** (0.007)	-4.026*** (0.006)	-3.964*** (0.008)
Black male * SC	-0.546*** (0.003)	-0.561*** (0.003)	-0.102*** (0.003)	-0.123*** (0.003)	-0.089*** (0.003)	-0.100*** (0.004)	0.037*** (0.004)	0.059*** (0.004)
Black male * CG	-1.304*** (0.006)	-1.339*** (0.006)	-0.768*** (0.004)	-0.793*** (0.004)	-0.732*** (0.004)	-0.720*** (0.005)	-0.543*** (0.004)	-0.516*** (0.005)
Female SC	-1.679*** (0.001)	-1.680*** (0.001)	-1.007*** (0.001)	-1.008*** (0.001)	-0.979*** (0.001)	-0.981*** (0.001)	-0.489*** (0.002)	-0.491*** (0.002)
Female CG	-4.451*** (0.005)	-4.452*** (0.005)	-2.499*** (0.002)	-2.500*** (0.002)	-1.789*** (0.002)	-1.786*** (0.002)	-1.086*** (0.002)	-1.083*** (0.002)
Black female	-7.285*** (0.015)	-7.294*** (0.020)	-6.335*** (0.010)	-6.671*** (0.017)	-5.541*** (0.009)	-5.604*** (0.012)	-4.834*** (0.008)	-4.774*** (0.012)
Black female * SC	0.101*** (0.003)	0.110*** (0.003)	0.219*** (0.003)	0.220*** (0.003)	0.106*** (0.003)	0.107*** (0.003)	0.133*** (0.004)	0.136*** (0.004)
Black female * CG	0.122*** (0.006)	0.137*** (0.006)	0.030*** (0.004)	0.036*** (0.004)	-0.249*** (0.004)	-0.258*** (0.004)	-0.282*** (0.005)	-0.289*** (0.005)

(continued)

**Appendix Table 4A. Continued**

	1980		1990		2000		2010	
	Model A	Model B	Model A	Model B	Model A	Model B	Model A	Model B
Educational assortative mating								
Male SC Female SC	1.905*** (0.002)	1.905*** (0.002)	1.402*** (0.002)	1.401*** (0.002)	1.248*** (0.002)	1.246*** (0.002)	1.142*** (0.003)	1.141*** (0.003)
Male SC Female CG	2.561*** (0.005)	2.560*** (0.005)	1.833*** (0.003)	1.831*** (0.003)	1.644*** (0.003)	1.641*** (0.003)	1.544*** (0.003)	1.544*** (0.003)
Male CG Female SC	3.030*** (0.003)	3.031*** (0.003)	2.001*** (0.003)	2.003*** (0.003)	1.633*** (0.003)	1.635*** (0.003)	1.369*** (0.004)	1.369*** (0.004)
Male CG Female CG	5.132*** (0.005)	5.133*** (0.005)	4.190*** (0.003)	4.190*** (0.003)	3.778*** (0.003)	3.777*** (0.003)	3.630*** (0.004)	3.629*** (0.004)
Black male * Black female	10.672*** (0.017)	10.838*** (0.022)	8.982*** (0.012)	9.523*** (0.019)	7.651*** (0.010)	7.752*** (0.014)	6.631*** (0.009)	6.497*** (0.014)
Constant	15.122*** (0.001)	15.122*** (0.001)	14.718*** (0.001)	14.719*** (0.001)	14.312*** (0.001)	14.313*** (0.001)	13.594*** (0.001)	13.594*** (0.001)
Observations	36	36	36	36	36	36	36	36
df	16	8	16	8	16	8	16	8
Deviance	2977.57	1176.93	4283.43	1821.67	2264.35	1369.11	2616.47	848.02
Log Likelihood	-1690.05	-789.73	-2352.85	-1121.97	-1346.41	-898.79	-1522.39	-638.17
AIC	3420.10	1635.47	4745.70	2299.94	2732.81	1853.57	3084.79	1332.33
BIC	3451.77	1679.80	4777.37	2344.28	2764.48	1897.91	3116.46	1376.67

Standard errors in parentheses; \*p<.10, \*\*p<.01, \*\*\*p<.001 (two-tailed significance tests).

<sup>1</sup> Model A includes dyadic exchange parameter estimates only, Model B adds educational boundary parameter estimates.

**Appendix Table 4B. Parameters from log-linear model of status exchange, with and without educational boundary controls. Young cohabiting couples (male partner 25-34), 1980-2010.<sup>1</sup>**

	1980		1990		2000		2010	
	Model A	Model B	Model A	Model B	Model A	Model B	Model A	Model B
Black male White female couples								
White female hypergamy	0.467*** (0.024)	-0.770*** (0.077)	0.253*** (0.020)	0.180*** (0.045)	0.455*** (0.015)	0.007 (0.032)	0.296*** (0.012)	-0.067** (0.025)
White female hypogamy	0.015 (0.025)	1.009*** (0.074)	-0.107*** (0.018)	-0.287*** (0.047)	-0.091*** (0.013)	0.278*** (0.031)	-0.221*** (0.010)	0.235*** (0.025)
Educational boundaries								
Black male Some college (SC)		1.338*** (0.074)		0.263*** (0.042)		0.462*** (0.029)		0.194*** (0.022)
Black male College grad (CG)		0.883*** (0.066)		-0.149*** (0.042)		0.220*** (0.029)		0.531*** (0.023)
White female SC		-0.928*** (0.071)		0.240*** (0.043)		-0.273*** (0.029)		-0.372*** (0.023)
White female CG		-0.831*** (0.073)		0.133*** (0.038)		-0.417*** (0.025)		-0.423*** (0.019)
White male Black female couples								
White male hypergamy	0.279*** (0.070)	-0.365* (0.165)	0.064 (0.038)	0.032 (0.092)	0.334*** (0.027)	0.309*** (0.056)	0.346*** (0.018)	0.581*** (0.042)
White male hypogamy	0.282*** (0.052)	0.698*** (0.157)	0.081* (0.038)	-0.176 (0.094)	0.347*** (0.028)	0.487*** (0.055)	0.178*** (0.023)	-0.055 (0.044)
Educational boundaries								
Black female SC		0.698*** (0.147)		0.277*** (0.084)		-0.099* (0.050)		-0.193*** (0.040)
Black female CG		0.681*** (0.155)		0.074 (0.083)		0.839*** (0.046)		0.104** (0.035)
White male SC		-0.438** (0.152)		0.554*** (0.085)		-0.043 (0.048)		0.357*** (0.037)
White male CG		-0.109 (0.142)		-0.029 (0.081)		0.261*** (0.047)		0.190*** (0.038)
Baseline parameters								
Male SC	-0.729*** (0.004)	-0.724*** (0.004)	-1.300*** (0.004)	-1.298*** (0.004)	-1.506*** (0.004)	-1.504*** (0.004)	-1.333*** (0.004)	-1.334*** (0.004)
Male CG	-2.793*** (0.010)	-2.803*** (0.010)	-2.672*** (0.007)	-2.669*** (0.007)	-2.495*** (0.006)	-2.507*** (0.006)	-2.550*** (0.006)	-2.569*** (0.006)
Black male	-3.281*** (0.012)	-3.385*** (0.014)	-3.475*** (0.009)	-3.626*** (0.011)	-2.978*** (0.007)	-3.008*** (0.008)	-2.809*** (0.006)	-2.771*** (0.007)
Black male * SC	-0.743*** (0.009)	-0.789*** (0.009)	-0.270*** (0.007)	-0.320*** (0.008)	-0.269*** (0.006)	-0.285*** (0.007)	-0.077*** (0.005)	-0.029*** (0.006)
Black male * CG	-1.645*** (0.020)	-1.725*** (0.023)	-0.841*** (0.011)	-0.894*** (0.013)	-1.112*** (0.009)	-1.083*** (0.011)	-0.857*** (0.008)	-0.838*** (0.009)
Female SC	-1.216*** (0.005)	-1.220*** (0.005)	-0.966*** (0.003)	-0.969*** (0.003)	-1.037*** (0.003)	-1.041*** (0.003)	-0.594*** (0.003)	-0.596*** (0.003)
Female CG	-3.697*** (0.015)	-3.683*** (0.015)	-2.547*** (0.007)	-2.552*** (0.007)	-2.055*** (0.005)	-2.040*** (0.005)	-1.494*** (0.004)	-1.477*** (0.004)
Black female	-5.488*** (0.032)	-5.636*** (0.042)	-5.078*** (0.019)	-5.459*** (0.028)	-4.705*** (0.015)	-4.908*** (0.020)	-4.362*** (0.012)	-4.507*** (0.016)
Black female * SC	-0.207*** (0.009)	-0.193*** (0.009)	-0.002 (0.007)	0.002 (0.007)	-0.082*** (0.006)	-0.070*** (0.007)	0.023*** (0.006)	0.012* (0.006)
Black female * CG	-0.681*** (0.023)	-0.676*** (0.024)	-0.527*** (0.012)	-0.527*** (0.012)	-0.541*** (0.009)	-0.621*** (0.010)	-0.465*** (0.007)	-0.520*** (0.008)

(continued)



**Appendix Table 4B. Continued**

	1980		1990		2000		2010	
	Model A	Model B	Model A	Model B	Model A	Model B	Model A	Model B
Educational assortative mating								
Male SC Female SC	1.504*** (0.007)	1.499*** (0.007)	1.289*** (0.005)	1.280*** (0.005)	1.207*** (0.006)	1.205*** (0.006)	1.065*** (0.005)	1.067*** (0.005)
Male SC Female CG	2.191*** (0.017)	2.164*** (0.017)	1.852*** (0.009)	1.847*** (0.009)	1.784*** (0.007)	1.766*** (0.007)	1.615*** (0.006)	1.599*** (0.006)
Male CG Female SC	2.399*** (0.012)	2.413*** (0.013)	1.781*** (0.009)	1.778*** (0.009)	1.634*** (0.008)	1.646*** (0.008)	1.478*** (0.008)	1.497*** (0.008)
Male CG Female CG	4.497*** (0.019)	4.489*** (0.019)	3.941*** (0.010)	3.936*** (0.010)	3.757*** (0.008)	3.750*** (0.008)	3.710*** (0.007)	3.712*** (0.007)
Black male * Black female	7.450*** (0.034)	7.712*** (0.044)	6.945*** (0.021)	7.492*** (0.030)	6.246*** (0.017)	6.485*** (0.021)	5.520*** (0.013)	5.625*** (0.018)
Constant	11.951*** (0.003)	11.952*** (0.003)	12.553*** (0.002)	12.555*** (0.002)	12.710*** (0.002)	12.711*** (0.002)	12.659*** (0.002)	12.659*** (0.002)
Observations	36	36	36	36	36	36	36	36
df	16	8	16	8	16	8	16	8
Deviance	970.56	348.10	1715.65	439.97	2185.23	680.32	2010.01	803.59
Log Likelihood	-649.67	-338.45	-1040.35	-402.51	-1283.82	-531.37	-1203.29	-600.08
AIC	1339.35	732.89	2120.70	861.02	2607.64	1118.73	2446.58	1256.16
BIC	1371.02	777.23	2152.37	905.36	2639.31	1163.07	2478.25	1300.50

Standard errors in parentheses; \*p<.10, \*\*p<.01, \*\*\*p<.001 (two-tailed significance tests).

<sup>1</sup> Model A includes dyadic exchange parameter estimates only, Model B adds educational boundary parameter estimates.